

wherein the planarization composition comprises a halogen-containing compound and a halide salt, which are separately delivered; and

wherein the halogen-containing compound is selected from the group consisting of a halogen; an interhalogen; a halogen-generating compound selected from the group consisting of XeF_2 , HgF_2 , SF_4 , alkyl halides, and complexes of X_2 with organic bases; and combinations thereof.

11. **(Amended)** The method of claim 1 wherein the halogen-containing compound is selected from the group consisting of F_2 , Cl_2 , Br_2 , I_2 , ClBr , IBr , ICl , BrF , ClF , ClF_3 , BrF_3 , ClF_5 , IF_5 , IF_7 , XeF_2 , HgF_2 , SF_4 , alkyl halides, and complexes of X_2 with organic bases, and combinations thereof.

18. **(Amended)** A planarization method comprising:

providing a semiconductor substrate or substrate assembly including at least one region of a platinum-containing surface;

providing a polishing surface;

providing a planarization composition at an interface between the at least one region of platinum-containing surface and the polishing surface; and

planarizing the at least one region of platinum-containing surface;

wherein the planarization composition comprises a halogen-containing compound and a halide salt, which are separately delivered; and

wherein the halogen-containing compound is selected from the group consisting of a halogen; an interhalogen; a halogen-generating compound selected from the group consisting of XeF_2 , HgF_2 , SF_4 , alkyl halides, and complexes of X_2 with organic bases; and combinations thereof.

24. **(Amended)** The method of claim 18 wherein the halogen-containing compound is selected from the group consisting of F_2 , Cl_2 , Br_2 , I_2 , $ClBr$, IBr , ICl , BrF , ClF , ClF_3 , BrF_3 , ClF_5 , IF_5 , IF_7 , XeF_2 , HgF_2 , SF_4 , alkyl halides, and complexes of X_2 with organic bases, and combinations thereof.
37. **(Amended)** A planarization method for use in forming an interconnect, the method comprising:
- providing a semiconductor substrate or substrate assembly having a patterned dielectric layer formed thereon and a metal-containing layer formed over the patterned dielectric layer, wherein the metal-containing layer comprises a metal selected from the group consisting of a Group VIIIB metal, a Group IB metal, and a combination thereof;
 - positioning a first portion of a polishing surface for contact with the metal-containing layer;
 - providing a planarization composition in proximity to the contact between the polishing surface and the metal-containing layer; and
 - planarizing the metal-containing layer;
- wherein the planarization composition comprises a halogen-containing compound and a halide salt, which are separately delivered; and
- wherein the halogen-containing compound is selected from the group consisting of a halogen; an interhalogen; a halogen-generating compound selected from the group consisting of XeF_2 , HgF_2 , SF_4 , alkyl halides, and complexes of X_2 with organic bases; and combinations thereof.
40. **(Amended)** The method of claim 37 wherein the halogen-containing compound is selected from the group consisting of F_2 , Cl_2 , Br_2 , I_2 , $ClBr$, IBr , ICl , BrF , ClF , ClF_3 , BrF_3 , ClF_5 , IF_5 , IF_7 , XeF_2 , HgF_2 , SF_4 , alkyl halides, and complexes of X_2 with organic bases, and combinations thereof.

52. (Amended) A planarization method comprising:

positioning a metal-containing surface of a substrate to interface with a polishing surface, wherein the metal-containing surface comprises a metal selected from the group consisting of a Group VIIIB metal, a Group IB metal, and a combination thereof;

supplying a planarization composition in proximity to the interface; and
planarizing the substrate surface;

wherein the planarization composition comprises a halogen-containing compound and a halide salt;

wherein the halogen of the halogen-containing compound is different than the halogen of the halide salt; and

wherein the halogen-containing compound is selected from the group consisting of a halogen; an interhalogen; a halogen-generating compound selected from the group consisting of XeF_2 , HgF_2 , SF_4 , alkyl halides, and complexes of X_2 with organic bases; and combinations thereof.

53. (Amended) A planarization method comprising:

positioning a metal-containing surface of a substrate to interface with a polishing surface, wherein the metal-containing surface comprises a metal selected from the group consisting of a Group VIIIB metal, a Group IB metal, and a combination thereof;

supplying a planarization composition in proximity to the interface; and
planarizing the substrate surface;

wherein the planarization composition comprises a halogen-containing compound and a halide salt;

wherein the planarization composition is not basic; and

wherein the halogen-containing compound is selected from the group consisting of a halogen; an interhalogen; a halogen-generating compound selected from the group consisting of

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XeF₂, HgF₂, SF₄, alkyl halides, and complexes of X₂ with organic bases; and combinations thereof.